ADEQ Arizona Department of Environmental Quality
Janice K. Brewer, Governor
Henry R. Darwin, Director

# TECHNICAL SUPPORT DOCUMENT

**TECHNICAL REVIEW AND EVALUATION**
**OF APPLICATION FOR**
**AIR QUALITY SIGNIFICANT PERMIT REVISION NO. 58734**
**TO OPERATING PERMIT NO. 53336**

## I. INTRODUCTION

This Significant Permit Revision No. 58734 to Operating Permit No. 53336 is to be issued to Drake Cement LLC to add a concrete batch plant to the facility. Additionally, this revision will change the requirement to maintain the pressure drop across the dust collectors from +/- 20 percent of the most recent performance test to a range of 0.5 to 6.0 inches of water for the Coal Mill baghouse (BH-12.18), quarry dust collectors (C-1.6, DC-1.8, DC-1.10, and DC-1.11), and the coal transport dust collector (DC-12.7.1). This revision also allows the facility the ability to conduct daily visible emissions monitoring in lieu of a bag leak detection system (BLDS) for the finish mill dust collectors DC-13.19, DC-13.20, and DC-13.40. This allowance is authorized under 40 CFR 63 Subpart LLL but was not incorporated in the previous permit renewal.

**A.** Company Information

Mailing Address: 5745 N. Scottsdale Road Suite B-135 Scottsdale, AZ. 85250

Facility Address: 5001 E. Drake Road, Paulden, AZ 86334

**B.** Attainment Classification

This area is designated as attainment for all pollutants.

## II. BACKGROUND INFORMATION

The current Class I renewal permit No. 53336. was issued on September 12, 2012, for the operation of a Portland cement plant. The cement plant is compromised of equipment used for raw material receiving/processing, coal preparation/processing, pyroprocessing/clinker production, and final product finishing.

## III. REVISION DESCRIPTION

The current Drake Cement permit has a requirement to maintain the pressure drop of several dust collectors within a range of +/- 20 percent of the most recent performance test. The +/- 20 percent range for the pressure drop of the dust collectors has resulted in a range that is too narrow for the facility to meet during normal operation. Drake has provided the Department with manufacture guarantees that these dust collectors are designed for maximum performance between 0.5 and 6.0 inches of water. None of these baghouses control CAM affected units. Drake has also proposed to include the ability to conduct daily visible emissions monitoring in lieu of a bag leak detection system (BLDS) for the finish mill dust collectors DC-13.19, DC-13.20, and DC-13.40. This allowance is provided for in 40 CFR 63.1350(f)(2)(i) but was not incorporated in the facility's previous renewal permit. Additionally, Drake requests the authorization to operate a concrete batch plant at the facility.

## IV. EMISSIONS

Post revision emissions are calculated based upon a throughput limit from the concrete batch plant of 1,310 cubic yards of concrete per day.

Table 1 - Emissions

| Pollutant | Existing Emissions (tpy) | Post Revision Emissions (tpy) |
|---|---|---|
| PM | 134 | 155 |
| $PM_{10}$ | 95 | 101 |
| $PM_{2.5}$ | 32 | 33 |
| $NO_x$ | 420 | 420 |
| $SO_2$ | 22 | 22 |
| CO | 1332 | 1332 |
| VOC | 57 | 57 |
| $CO_2E$ | 594,000 | 594,000 |

## V. APPLICABLE REQUIREMENTS

The addition of a concrete batch plant to the facility triggers the requirements in the Arizona Administrative Code (A.A.C.) R18-2-723.

## VI. AIR POLLUTION CONTROL REQUIREMENT

The addition of a concrete batch plant with associated fly ash silo requires the installation of a baghouse for the concrete batch plant and a dust collector for the fly ash silo, as well as wet suppression systems for aggregate and sand handling.

## VII. MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

The following additional requirements are specified in the permit revision for the addition of the concrete batch plant and associated equipment:

**A.** The concrete batch plant is subject to a 20 percent opacity standard and a 40 percent opacity limit for fugitive dust sources. A certified EPA Reference Method 9 observer will conduct monthly surveys of visible emissions from this equipment as follows:

1. If the observer, during the visual survey, does not see visible emissions that on an instantaneous basis appears to exceed the applicable opacity standard, then the

observer will keep a record of the name of the observer, the date on which the observation was made, and the results of the survey.

2. If the observer sees a visible emission from the process source or fugitive dust source that on an instantaneous basis appears to exceed applicable opacity standard, then the observer will, if practicable, take a six-minute Method 9 observation of the visible emission. If the six-minute opacity of the visible emission is less than or equal to applicable opacity standard, the observer will make a record of the date and time of the observation, name of the observer, and the results of the Method 9 observation.

3. If the six-minute opacity of the visible emission exceeds the applicable opacity standard, then the Permittee will adjust or repair the controls or equipment to reduce opacity to below the applicable standard. The Permittee will keep records of the date and time of the observation, name of the observer, the results of the Method 9 observation, and records of any corrective action taken. The Permittee shall report this as an excess emission under Condition XI.A of Attachment "A".

**B.** Monitoring and Recordkeeping for the Coal Mill baghouse (BH-12.18), quarry dust collectors (C-1.6, DC-1.8, DC-1.10, and DC-1.11), and the coal transport dust collector (DC-12.7.1) remain unchanged apart from the changes in the indicator ranges for pressure drop.

**C.** Finish Mill Dust Collectors DC-13.19, DC-13.20, and DC-13.40

Additional monitoring requirements have been included in this revision for the finish mill dust collectors in accordance with 40 CFR 63.1350(f)(2). The Permittee must conduct daily visible emissions observations for these dust collectors in accordance with Method 22 of appendix A-7 of 40 CFR Part 60.

## VIII. LIST OF ABBREVIATIONS

A.A.C. ..... Arizona Administrative Code
ADEQ ..... Arizona Department of Environmental Quality
CAM ..... Compliance Assurance Monitoring
CO ..... Carbon Monoxide
$CO_2E$ ..... Carbon Dioxide Equivalent
EPA ..... Environmental Protection Agency
$NO_2$ ..... Nitrogen Dioxide
$PM_{2.5}$ ..... Particulate Matter
$PM_{10}$ ..... Particulate Matter Nominally less than 10 Micrometers
$SO_2$ ..... Sulfur Dioxide
TPY ..... Tons per Year
VOC ..... Volatile Organic Compound